WEATHER SERVICES ARE FREE

METEOROLOGICAL BRANCH
DEPARTMENT OF TRANSPORT – CANADA

To the Pilot

This booklet is your pocket guide to Canadian Weather Services, a portable set of answers to the basic questions:

Where can I get Weather Services?

What Services are available?

How do I use them?

Keep this booklet handy, on the **ground** and in the **air.** To a beginner, it is a quick introduction to weather practices; to the tourist pilot exploring strange Canadian skies, it is an aid to safer, pleasanter flying; to the seasoned flyer, it will be a brief and handy reference.

WHERE TO GET WEATHER SERVICES

Fifty forecast offices in Canada offer you on-the-spot **Forecast** and **Briefing** Services. This includes direct access to the latest weather maps, aviation forecasts, plus advice of a professional meteorologist in flight planning. These forecast offices are located mainly at the larger airports.

At other large airports and intermediate landing fields, Weather Observing and Aeradio Stations keep watch on the weather. Most of these stations are connected to the **Meteorological Teletype Communication System** and can supply you with the latest forecasts and weather reports needed for your flights.

Once in a while the information at these Observing and Aeradio Stations may not meet your needs or the weather situation may demand the professional advice of a meteorologist. If you find this is the case after a full survey of the data, request a **Flight Forecast** from a District Aviation Forecast Office.

If you happen to be at a station on a main weather teletype network, the request will be transmitted free of charge. All **private** calls or wires are made at the pilot's expense.

Requests for **Flight Forecasts** will include the following items:

1. Route to be followed—departure point, destination and alternates.
2. Estimated time of departure and arrival.
3. Type of operation—whether VFR or IFR. (If IFR, specify the flight altitude.)
4. Type of aircraft.

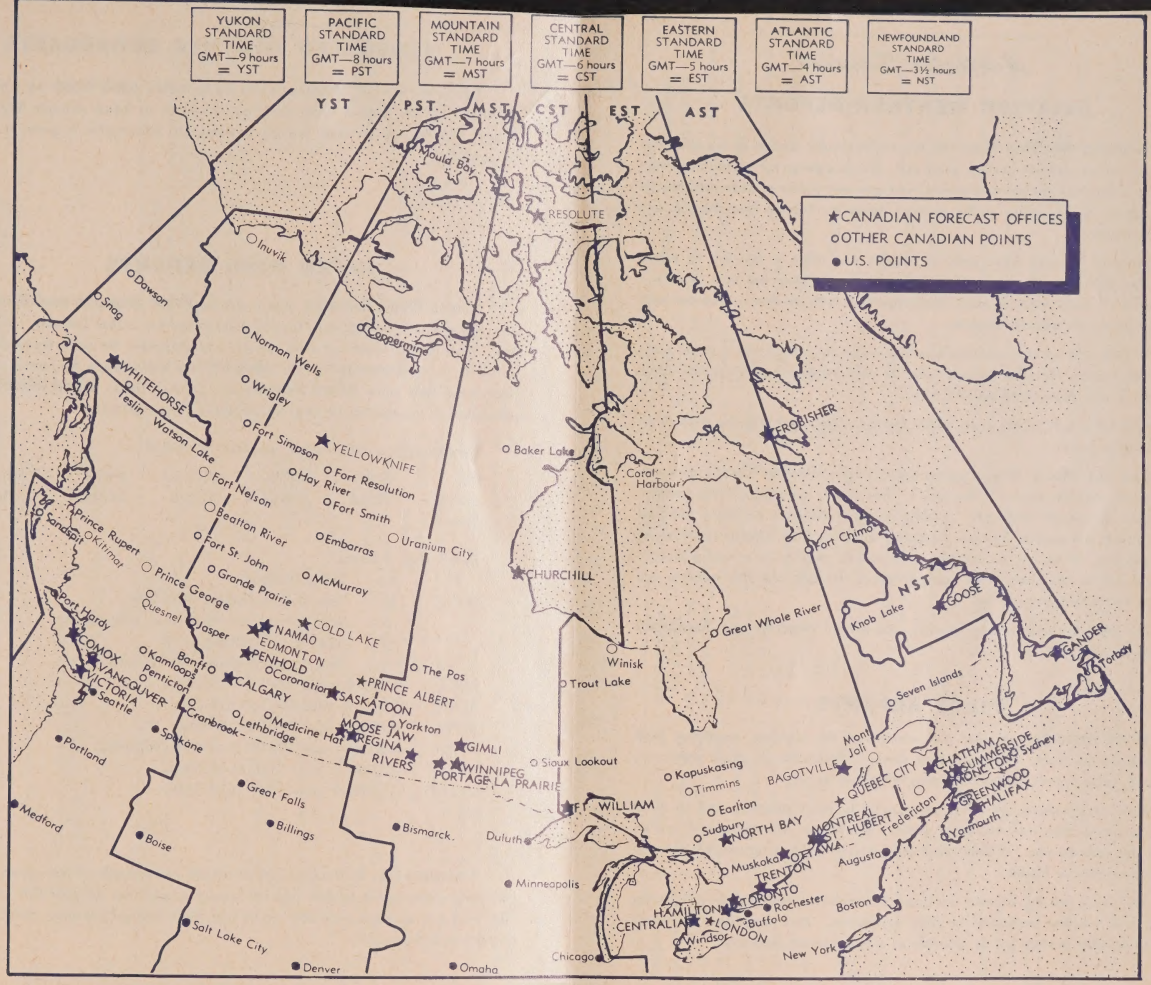
To cut down delays, you should file your request three hours ahead of take-off time. And one further point—Don't file special requests unless you have a special need. Weather communications are heavily loaded under routine demands.

A handy list of places where weather services can be obtained is given on the next page.

Flight Weather Information can be Obtained at Airport Centres Listed Below

		AIRPORT	CONTACT	TELEPHONE NUMBER
NEWFOUNDLAND		Buchans (ZM)	Aeradio Station	Ask for Aeradio
	★	Gander (QX)	Forecaster	94201
	★	Goose (YR)	Forecaster	Twilight 6-2461, local 22201
		St. Andrews (ZB)	Aeradio Station	Six short rings
		St. John's (Torbay—YT)	Weather Office	91092
MARITIMES		Charlottetown (YG)	Aeradio Station	8035
	★	Chatham (CH)	Forecaster	PRospect 3-4421, local 236
		Fredericton (FC)	Weather Office	5-9361
	★	Greenwood (ZX)	Forecaster	POplar 5-3391, local 429
	★	Halifax (HX)	Forecaster	423-8314
	★	Halifax International Airport (HZ)	Forecaster	Bedford 3766
	★	Halifax (Shearwater—AW)	Forecaster	466-2131, local 308
	★	Moncton (QM)	Forecaster	EVergreen 2-6201
		Saint John (SJ)	Weather Office	OXford 2-4126
	★	Summerside (SU)	Forecaster	2281, local 233 and 231
		Sydney (QY)	Weather Office	6197
		Truro (TQ)	Weather Office	2229
		Yarmouth (QI)	Aeradio Station	742-5260
QUEBEC	★	Bagotville (BG)	Forecaster	Chicoutimi, Liberty 3-7751 local 314
		Cartierville (CV)	Montreal (Dorval)	MElrose 1-1861, local 3361
		Fort Chimo (VP)	Weather Office	
		Knob Lake (KL)	Weather Office	Schefferville, 489
		Megantic (XG)	Aeradio Station	597
		Mont-Joli (YY)	Aeradio Station	PResident 5-3348
		Montebello (Seignory Club)	Montreal (Dorval)	MElrose 1-1861, local 3361
	★	Montreal (Dorval—UL)	Forecaster	MElrose 1-1861, local 3361
		Murray Bay	Quebec City	TR 2-2415
	★	Quebec City (QB)	Forecaster	TR 2-2415
	★	St. Hubert (HU)	Forecaster	ORchard 1-3711, local 528
		St. Jovite	Montreal (Dorval)	MElrose 1-1861, local 3361
		Seven Islands (ZV)	Aeradio Station	WI 2-2385
ONTARIO		Armstrong (YW)	Aeradio Station	19 W 4
	★	Centralia (CE)	Forecaster	ACademy 8-6611, local 327
		Earlton (XR)	Aeradio Station	1 A
		Gore Bay (ZE)	Aeradio Station	222J
		Graham (VJ)	Aeradio Station	
	★	Hamilton (HC)	Forecaster	JAckson 9-6200
		Kapuskasing (YU)	Weather Office	EDgewood 5-2617
		Kenora (QK)	Aeradio Station	Kingsdale 8-4111
		Killaloe (XI)	Aeradio Station	73
		Kingston	Trenton	EXeter 2-3511, local 575
		Kitchener	Toronto (Malton)	BUtler 6-3261, local 35
	★	Ft. William-Pt. Arthur (Lakehead—QT)	Forecaster	MA 2-4220
	★	London (XU)	Forecaster	GLadstone 1-3390
		Muskoka Airport (QA)	Aeradio Station	Gravenhurst MUrray 7-3103
		Nakina (QN)	Aeradio Station	130
	★	North Bay (YB)	Forecaster	(Grover 4-2200, local 356) (Grover 2-9110)
		Oshawa (OO)	Toronto (Malton)	BUtler 6-3261, local 35
	★	Ottawa (Rockcliffe—RC)	Forecaster	9-32211
	★	Ottawa (Uplands—UP)	Forecaster	9-53147 or 9-53081
		Pagwa (XK)	Aeradio Station	
		Sioux Lookout (XL)	Aeradio Station	199-Ring 1
		Sudbury (SB)	Weather Office	OXford 3-2117
		Timmins (TS)	Aeradio Station	Amherst 4-5425
	★	Toronto (Malton—YZ)	Forecaster	BUtler 6-3261, local 35
		Toronto Island (TZ)	Weather Office	EMpire 6-5917
	★	Trenton (TR)	Forecaster	Exeter 2-3511, local 575
		Wiarton (VV)	Aeradio Station	38W
		Windsor (QG)	Weather Office	Yorktown 9-2740
MANITOBA		Brandon (BR)	Aeradio Station	Parkway 6-5255
		Dauphin (DN)	Weather Office	4021
	★	Fort Churchill (YQ)	Forecaster	Local 233W
	★	Gimli (GM)	Forecaster	900, local 20
		Lac du Bonnet	Winnipeg	SP 5-2583
		Neepawa (XZ)	Aeradio Station	250
	★	Portage la Prairie (PG)	Forecaster	700, local 249RI
	★	Rivers (YI)	Forecaster	New Sarum:448
		The Pas (QD)	Weather Office	Clearwater Circuit 60
	★	Winnipeg (WG)	Forecaster	SP 5-2583

		AIRPORT	CONTACT	TELEPHONE NUMBER
SASKATCHEWAN		Broadview (XB)	Aeradio Station	91
		Dafoe (VX)	Aeradio Station	Watson 125, ring 4
		Estevan (EN)	Weather Office	ME 4-2833
		Hudson Bay (HB)	Weather Office	134
	★	Moose Jaw (MJ)	Forecaster	OXford 27861, local 244
		North Battleford (QW)	Aeradio Station	3753
	★	Prince Albert (PA)	Forecaster	RO 3-2543
	★	Regina (QR)	Forecaster	LA 3-2677
	★	Saskatoon (XE)	Forecaster	OLiver 2-0281, local 230
		Swift Current (YN)	Aeradio Station	2618
		Uranium City (BE)	Aeradio Station	
		Yorkton (QV)	Aeradio Station	783-2364
ALBERTA		Banff (BA)	Calgary	Crestview 7-8488
	★	Calgary (YC)	Forecaster	Crestview 7-8488
		Chipewyan (PY)	Aeradio Station	
	★	Cold Lake (OD)	Forecaster	Grand Centre 31, local 340
	★	Edmonton International (EG) Airport	Forecaster	299-7202
	★	Edmonton Municipal (XD) Airport	Forecaster	HUnter 8-4644
		Embarras (EM)	Aeradio Station	
		Grande Prairie (QU)	Weather Office	2642
		Jasper (JA)	Edmonton	HUnter 8-4644
		Lethbridge (QL)	Weather Office	FA 7-4334
		Lac la Biche (LB)	Aeradio Station	75 Ring 2
		McMurray (MM)	Weather Office	743-2519
		Medicine Hat (XH)	Aeradio Station	JA 6-3040
	★	Namao (ED)	Forecaster	Swift 9-3141
	★	Penhold (PQ)	Forecaster	Red Deer 2093, local 69
		Pincher Creek (PC)	Weather Office	546
		Vermilion (VG)	Aeradio Station	256
		Waterton Lakes	Lethbridge	FA 7-4334
BRITISH COLUMBIA		Abbotsford (XX)	Aeradio Station	UL 4-23511
		Ashcroft (ZA)	Aeradio Station	82
		Beatton River (ZC)	Aeradio Station	
		Castlegar (CG)	Canadian Pacific Airlines	3011
		Chilliwack (CW)	Vancouver	CRestwood 8-2166
	★	Comox (QQ)	Forecaster	Courtenay 900, local 7
		Cranbrook (XC)	Canadian Pacific Airlines	JU 6-4844
		Crescent Valley (QS)	Aeradio Station	South Slocan 831
		Fort Nelson (YE)	Weather Office	23
		Fort St. John (XJ)	Weather Office	119
		Hope (HE)	Weather Office	UN 6-7751
		Kamloops (KA)	Weather Office	2298
		Kimberley (QE)	Aeradio Station	LUdlow 2-3010
		Nanaimo (CD)	Aeradio Station	SK 4-7351
		Oliver	Penticton	HY 2-3001
		Penticton (YF)	Aeradio Station	HY 2-3001
		Port Hardy (ZT)	Weather Office	
		Prince George (XS)	Weather Office	Logan 4-2636
		Prince Rupert (PR)	Aeradio Station	4219
		Princeton (DC)	Aeradio Station	19
		Quesnel (QZ)	Aeradio Station	191
		Sandspit (ZP)	Aeradio Station	Sandspit 9001
		Smithers (YD)	Aeradio Station	33
		Smith River (ZL)	Aeradio Station	
		Terrace (XT)	Aeradio Station	VI 3-2110
		Tofino (AZ)	Aeradio Station	Tofino 841
	★	Vancouver (VR)	Forecaster	CRestwood 8-2166
	★	Victoria (VI)	Forecaster	EV 3-8241
	★	Victoria International Airport (YJ)	Forecaster	GR 5-1631, GR 5-3131
		Williams Lake (WL)	Aeradio Station	EX 2-5224
YUKON TERRITORY		Aishihik (ZK)	Aeradio Station	
		Dawson (DA)	Aeradio Station	
		Mayo (MA)	Aeradio Station	
		Snag (XQ)	Aeradio Station	
		Teslin (ZW)	Aeradio Station	Local 1 short, 1 long
		Watson Lake (QH)	Weather Office	2270
	★	Whitehorse (XY)	Forecaster	8-2293
NORTHWEST TERRITORIES		Baker Lake (BK)	Weather Office	
		Cambridge Bay (CB)	Weather Office	
		Coral Harbour (ZS)	Weather Office	
		Fort Resolution (FR)	Aeradio Station	
		Fort Simpson (FS)	Aeradio Station	
		Fort Smith (SM)	Weather Office	2346
	★	Frobisher (FB)	Forecaster	154
		Hay River (HY)	Aeradio Station	2111
		Inuvik (EV)	Aeradio Station	
		Norman Wells (VQ)	Weather Office	
	★	Resolute (RB)	Forecaster	Resolute 24 or 55
		Wrigley (WY)	Aeradio Station	
	★	Yellowknife (ZF)	Forecaster	85R2



Forecast Offices in the list on page 2 are marked with a star. None of the other offices is a forecast centre but the station staff will help you pick out the latest reports and forecasts needed for your flight. The two-letter identifiers for the airport appear in parentheses after the name.

Available Services

AVIATION WEATHER REPORTS

Aviation Weather Reports are coded hourly reports of the observed weather: ceiling, visibility, surface wind, etc. They are made by trained observers at over a hundred stations in Canada, and you can obtain a wide selection of these reports at any office on the teletype network. Reports from the U.S. are also available.

Curiously enough, these aviation reports are often a mystery to pilots. They shouldn't be. We know of an international war-time bet that anyone—but anyone—could learn to read these reports in half an hour. And our man won his point with minutes to spare.

So take half an hour and see how you make out. The code is quite easy, once you realize that the symbols refer to real weather conditions, the same weather you've been watching for years.

Now for a look at the reports (see section on Aviation Weather Reports on the opposite page).

Caution No. 1: Never assume that Aviation Weather Reports give you a complete weather picture. They don't. They merely describe existing weather conditions at specific times and "specific places". Between stations a hundred miles apart, the weather can be drastically different from what is reported at either station. Then, too, a report of good or bad weather at a station doesn't mean it will be the same when you get there. It's still true that weather can change faster than you can fly.

For the full weather story, always consult both **reports** and **forecasts** before you take off.

PILOT REPORTS

Pilot Reports are your own reports of the weather conditions **you** observe during flight. Normally, they contain information on cloud types and amounts, upper winds, turbulence, icing, temperatures, etc.

Now, such reports are often very useful to the forecaster, and to other pilots planning trips over the same route. Whether or not the reports are on hand depends on you. Without your co-operation in filing reports this type of service remains a blank.

Next time you fly, be sure to discuss the weather conditions you met during flight with weather personnel at your destination. And remember—a report of fine weather is often just as valuable as a report on the bad stuff.

SCHEDULED WEATHER BROADCASTS

Scheduled Weather Broadcasts are made **twice each hour** by Aeradio Stations. For the pilot in flight the range transmits its latest Aviation Weather Report plus the reports from nearby stations. All information is given in plain language.

UPPER WIND REPORTS

Upper Wind Reports, also known as **Pibal Reports and Rawins,** are made every six hours at 70 pilot balloon stations across Canada. In brief, they describe the observed wind speeds and directions for each thousand-foot level above the observing station. **Heights** are measured in thousands of feet from mean sea level. **Wind Speeds** are given in knots. **Wind directions** are taken to the nearest 10 degrees measured from true north.

Here's a typical pibal report and how to read it:

YC	21431	41714	51720	61822	71825
81827	91926	99991	02028	22232	42338
62442					

Here's what it means:

YC	YC	Station Calgary.
21431	21	Time of Observation: 2100 GMT
	4	Interval Indicator: 1000 feet, pilot balloon.
	3	Surface Wind Direction: SE
	1	Surface Wind Speed: 10-19 knots.
41714	4,000 ft. wind 170° at 14 knots.	
51720	5,000 ft. wind 170° at 20 knots.	
91926	9,000 ft. wind 190° at 26 knots.	
99991	indicates: add 10,000 ft. to levels following.	
02028	10,000 ft. wind 200° at 28 knots.	
22232	12,000 ft. wind 220° at 32 knots.	
etc.		

Caution No. 2: Don't use these reports as forecasts of the upper winds. It's very discouraging to find yourself twenty minutes out on your ETA because the wind has changed since the report was filed. In flight planning, check **both** reports and forecasts.

HOW TO READ AVIATION WEATHER REPORTS — SA's

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SA 106 041500Z
WG B12025-F 207/9/41\1928/007/SC10 QADOS 214
QK P5X1/2S 168/6/01\16/991/S10 VSBY OCNLY 1/4 114
XL 60E1802206SW- 151/0/-4\14/985/FS1SC6CI2 315
```

SKY CONDITION

Symbols are used to report the amount of sky cover:

- ◯ clear — no clo ud.
- ◔ scattered — 1/10 to 5/10 sky cover.
- ◑ broken — 6/10 to 9/10 sky cover.
- ⊕ overcast — 10/10 sky cover.
- -× partially obscured — sky partially obscured by a layer of fog, smoke, etc., whose base is at the ground.
- × obscured — sky completely obscured by a layer of fog, smoke, etc., whose base is at the ground.

A minus sign (—) preceding ◔, ◑, or ⊕ means that the sky cover is thin. Note that — ◔ or — ⊕ does not constitute a ceiling.

STATION

Canadian weather reporting stations are assigned two-letter identifiers. For example, WG indicates Winnipeg, YZ indicates Toronto (Malton), etc.

Multiple layers are reported in ascending order, e.g., 10◔ E30◑100⊕, reports the following layers: 1,000 feet, scattered; ceiling estimated 3,000 feet, broken; and 10,000 feet, overcast.

WEATHER

The weather elements of the report are indicated by the following symbols:

L	drizzle	E	ice pellets
ZL	freezing drizzle	EW	ice pellet shower
R	rain	A	hail
ZR	freezing rain	T	thunderstorm
RW	rain shower		
S	snow		
SW	snow shower		
SP	snow pellets		
SG	snow grains		
IC	ice prisms		

Intensities are indicated as in the following examples:

Very light rain	R--
Light rain	R-
Moderate rain	R
Heavy rain	R+

A tornado is reported in plain language — TORNADO.

BAROMETRIC PRESSURE

is indicated by a group of three figures representing tens, units and tenths of millibars. A pressure of 1014.8 millibars is written as 148; 989.9 as 899; etc. Sea level pressure in Canada varies roughly between the extremes of 960.0 and 1050.0 millibars.

CLOUDS

The Cloud form or an obscuring phenomenon, corresponding to each layer reported in the sky condition group, is given by an abbreviation followed by a number giving the tenths of sky concealed by the layer. A direction arrow is used to show the direction from which the layer is moving. For example: Sky condition; —X 30◔ 200—◑ Clouds: F2 SC2↙ CI1→

CI	cirrus	SC	stratocumulus
CS	cirrostratus	CU	cumulus
CC	cirrocumulus	C F	cumulus fractus
AS	altostratus	CU+	heavy cumulus
AC	altocumulus	CB	cumulonimbus
ACC	altocumulus castellanus		
NS	nimbostratus		
ST	stratus		
SF	stratus fractus		

OBSCURING PHENOMENA

F	fog
K	smoke
H	haze
S	snow
R	rain
L	drizzle
A	hail
BS	blowing snow
D	dust
N	sand

DEWPOINT

is indicated by figures giving its value to the nearest degree Fahrenheit. Values below zero are indicated by the entry of a minus sign (—) immediately preceding the figures for dewpoint.

ALTIMETER SETTING

indicated by a group of three figures representing the units, tenths and hundredths of an inch of pressure involved. Thus, 30.00 inches is written 000; 29.72 as 972; etc.

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WG	B12	⊕	2	S-	F	207	9	4	↓\	19+28	007	SC10	QADOS	214

CEILING

Ceilings and cloud heights are given in hundreds of feet **above ground** with the final "00" of the figure being omitted. For example: "4" means 400 feet; "23" means 2300 feet; "120" means 12,000 feet.

The numerical value of the ceiling is **always preceded** by a single letter which indicates the nature and the method of determination of the ceiling.

- M —Measured ceiling
- A —Aircraft ceiling
- B —Balloon ceiling
- W—Indefinite ceiling
- P —Precipitation ceiling
- E —Estimated ceiling

The absence of such a letter in the sky condition group indicates "ceiling unlimited". The letter V following the ceiling figure indicates that the height is variable.

VISIBILITY

The prevailing horizontal visibility is reported in miles and fractions of miles. The letter "V" immediately following the visibility figure indicates a fluctuating visibility.

OBSTRUCTIONS TO VISION

are indicated by the following symbols:

BD	blowing dust
BN	blowing sand
BS	blowing snow
D	dust
F	fog
IF	ice fog
H	haze
K	smoke

TEMPERATURE

is given to the nearest degree Fahrenheit. Values below zero are indicated by the entry of minus sign (—) immediately preceding the figures for temperature. Zero itself is indicated as "0"

WIND

Wind direction (measured from true north) is indicated by arrows as follows:

N	↓	S	↑
NNE	↓↙	SSW	↑↗
NE	↙	SW	↗
ENE	←↙	WSW	→↗
E	←	W	→
ESE	←↖	WNW	→↘
SE	↖	NW	↘
SSE	↑↖	NNW	↓↘

Speed is given in miles per hour, "calm" being indicated by the letter "C".

Gustiness is indicated by a plus sign (+) after the speed, e.g., ↘25+. The speed of the peak gust may be given after the plus sign (+), e.g., ↘25+38.

Squalls are indicated by "Q" following the speed, e.g., ↘25Q. Peak gusts with the squalls may be indicated by the number following Q, e.g., ↘25Q42.

Wind shifts and their times are reported by direction arrows for the wind direction before the wind shift, followed by a four-figure GMT time group giving the time of the wind shift, e.g., ↘19. →↗1510Z reports that the wind shifted from WSW to NW at 1510 GMT.

REMARKS

may provide additional weather information or information on radio aids and communications. Teletype cloud and wind symbols and standard word contractions are used in these remarks.

PRESSURE TENDENCY

When included, the pressure tendency is indicated by a group of three figures at the end of the remarks. It indicates in code form the way in which the barometric pressure has changed in the preceding three hours and the amount of that change in tenths of millibars.

MEANING OF EXAMPLE

Aviation Weather Report—Meteorological Teletype Circuit Number 106—Date 4th day of the month—Time 1500 GMT. Winnipeg: Balloon ceiling 1200 feet, sky overcast; visibility two miles; light snow and fog; sea level pressure 1020.7 millibars; temperature 9 degrees; dew point 4 degrees; wind north northwest 19 miles per hour, gusty, with peak gusts to 28; altimeter setting 30.07 inches; clouds stratocumulus ten-tenths; middle marker out of service until further notice; pressure tendency rising steadily — net change +1.4 millibars.

MISSING DATA

Elements normally sent, but for some reason missing from the transmission, will be indicated by the letter "M" entered in the report in place of the missing data.

Aviation Forecasts—FAs

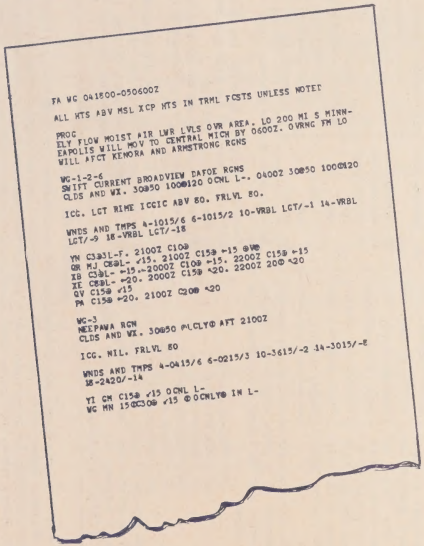
Aviation forecasts—FAs—are weather forecasts tailored to meet your needs. Every predictable weather element affecting flight operations, from cloud icing to surface visibility, is treated in detail.

Valid for 12 hours, FAs are issued at 0000, 0600. 1200, 1800 GMT, by 10 main forecast offices across Canada. Each office is responsible for an area. The forecasts apply to **individual regions** in the area and to selected **airport terminals** in each region.

The best way to get acquainted with these forecasts is to read them. If you can handle aviation weather reports, FAs should be easy. The same teletype symbols and word abbreviations are used in both.

Here's a sample forecast in standard form just as it comes from the teletype. Puzzle it out for yourself before you look at the plain language treatment in the next column.

Caution No. 3: It is very important for you to remember the level of reference for all heights in aviation forecasts and aviation weather reports. **FAs**—Heights in the **regional** forecasts are expressed **above MSL** (mean sea level). Heights in the **terminal** forecasts are expressed **above ground.** In special circumstances, when the forecaster does not follow these rules, the level of reference is clearly stated. **SAs**—All heights in the aviation weather reports are expressed **above ground** unless indicated otherwise.



FA WC 041800-050600Z

ALL HTS ABV MSL XCP HTS IN TRML FCSTS UNLESS NOTED

PROG
ELY FLOW MOIST AIR LWR LVLS OVR AREA. LO 200 MI S MINNEAPOLIS WILL MOV TO CENTRAL MICH BY 0600Z. OVRNG FM LO WILL AFCT KENORA AND ARMSTRONG RGNS

WC-1-2-6
SWIFT CURRENT BROADVIEW DAFOE RGNS
CLDS AND WX. 30@50 100@120 OCNL L-. 040OZ 30@50 100@120

ICG. LCT BLMY ICGIC ABV 80. FRLVL 80.

WNDS AND TMPS 4-1015/6 6-1015/2 10-VRBL LCT/-1 14-VRBL LCT/-9 18-VRBL LCT/-18

YN C3@3L-F. 2100Z C10@
OR MJ C8@L- <15. 2100Z C10@ -15. 2200Z C15@ +15
XB C3@L- -15-2000Z C10@ <20. 2200Z 20@ <20
XE C8@L- -20. 2000Z C15@ <20. 2200Z 20@ <20
GV C15@ <15
PA C15@ -20. 2100Z C20@ <20

WC-3
NEEPAWA RGN
CLDS AND WX. 30@50 PLCLY@ AFT 2100Z

ICG. NIL. FRLVL 80

WNDS AND TMPS 4-0415/6 6-0215/3 10-3615/-2 14-3015/-E 18-2420/-14

YI CM C15@ <15 OCNL L-
WC MN 15@C30@ <15 @OCNLY@ IN L-

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HERE IS THE PLAIN LANGUAGE EXPLANATION

Aviation forecast issued by Winnipeg, valid from 1800 hours, Greenwich Mean Time, on the 4th day of the month to 0600 hours, Greenwich Mean Time on the 5th day of the month.

All heights are above mean sea level except heights in terminal forecasts.

Prognosis:

Easterly flow moist air at lower levels over area. Low 200 miles south Minneapolis will move to central Michigan by 0600 Greenwich Mean Time. Overrunning from low will affect Kenora and Armstrong regions.

Winnipeg forecast regions Number 1, 2, 6 (Swift Current, Broadview, Dafoe regions).

Clouds and Weather. Overcast base 3,000 ft. m.s.l. top 5,000 ft. m.s.l., broken layer base 10,000 ft. m.s.l., top 12,000 ft. m.s.l., occasional light drizzle; becoming at 0400 G.M.T., broken layer base 3,000 ft. m.s.l., top 5,000 ft. m.s.l., scattered layer base 10,000 ft. m.s.l., top 12,000 ft. m.s.l.

Icing. Light rime icing in cloud above 8,000 ft. m.s.l. Freezing level at 8,000 ft. m.s.l.

Winds and temperatures:

4,000 feet M.S.L.—100 degrees true at 15 knots; Temperature 6 degrees Centigrade.

6,000 feet M.S.L.—100 degrees true at 15 knots; Temperature 2 degrees Centigrade.

10,000 feet M.S.L.—wind light variable; Temperature —1 degree Centigrade.

14,000 feet M.S.L.—wind light variable; Temperature —9 degrees Centigrade.

18,000 feet M.S.L.—wind light variable; Temperature —18 degrees Centigrade.

Swift Current Terminal Forecast

Ceiling 300 feet (above ground), sky overcast, visibility 3 miles, light drizzle and fog, becoming by 2100 GMT ceiling 1,000 feet, sky overcast, visibility over 8 miles, surface wind speed 12 miles per hour or less. (**Note:** Visibility not given when over 8 miles, and surface wind not given unless expected to be more than 12 miles per hour).

Regina, Moose Jaw Terminal Forecast

Ceiling 800 feet, overcast, visibility more than 8 miles, light drizzle, surface wind northeast at 15 miles per hour, becoming by 2100 GMT ceiling 1,500 feet, overcast, visibility more than 8 miles, surface wind east at 15 miles per hour, the overcast varying to broken.

BRIEFING SERVICES

At any forecast office you can get a weather briefing by a professional meteorologist. This includes a full discussion of the current weather maps, the latest reports and the forecasts.

Handy forms are provided on which you can copy the reports you want to take along. On request you'll get a copy of the latest aviation forecast (FA) needed for your operation.

Of course, a copy of the forecast is no substitute for personal contact with the duty forecaster. If you want the latest and best weather information, he's the man to see. It's difficult sometimes to visualize the exact nature of the reported or forecast weather conditions. A few words with the forecaster will give you the clearest possible picture.

WORD LIST

These contractions are the ones most commonly used in Aviation Forecasts and Aviation Weather Reports. It is not a complete list.

ABV	Above
ACRS	Across
ACTV	Active
ADVN	Advance
AFDK	After Dark
AFT	After
AHD	Ahead
ALG	Along
ALF	Aloft
ASOCTD	Associated
BCKG	Backing
BCMG	Becoming
BFR	Before
BGNG	Beginning
BHND	Behind
BINOVC	Breaks in Overcast
BLO	Below
BOVC	Base of Overcast
BRFLY	Briefly
BRKN	Broken
BTN	Between
CHG	Change
CIG	Ceiling
CLD	Cloud
CLR	Clear
CLRG	Clearing
CNDS	Conditions
CONTUS	Continuous
DCRG	Decreasing
DFUS	Diffuse
DNS	Dense
DPN	Deepen
DRZL	Drizzle
DSIPTG	Dissipating
DVLPG	Developing
ERY	Early
ERN	Eastern
FCST	Forecast
FROPA	Frontal Passage
FRZG	Freezing
GND	Ground
GNLY	Generally
HI	High
HND	Hundred
HRS	Hours
HTS	Heights
HVY	Heavy
ICG	Icing
INCRG	Increasing
INTS	Intense
INTMT	Intermittent
INVOF	In the vicinity of
IPVG	Improving
LGT	Light
LK	Lake
LO	Low
LVL	Level
LWRG	Lowering
LYRS	Layers
MOV	Move
MXD	Mixed
NOTAM	Notice to Airmen
NR	Near
NRLY	Nearly
NRN	Northern
OCLN	Occlusion
OCNL	Occasional
OTRW	Otherwise
OVC	Overcast
OVHD	Overhead
OVRNG	Overrunning
PCPN	Precipitation
PRD	Period
PROG	Prognostic
PTN	Portion
QSTNRY	Quasistationary
RDG	Ridge
RGN	Region
SFC	Surface
SHFTG	Shifting
SHWRS	Showers
SLOLY	Slowly
SMK	Smoke
SNW	Snow
SPRDG	Spreading
SRLY	Southerly
SRN	Southern
STBL	Stable
STG	Strong
SVR	Severe
THRUT	Throughout
THSD	Thousand
TMPS	Temperatures
TRML	Terminal
TROF	Trough
TROWAL	Trough of Warm Air Aloft
TSHWRS	Thundershowers
TSTM	Thunderstorm
TURBC	Turbulence
UNL	Unlimited
VCNTY	Vicinity
VRBL	Variable
VSBY	Visibility
WKNG	Weakening
WNDS	Winds
WRLY	Westerly
WRN	Western
WV	Wave
WX	Weather
XPCD	Expected
XTRM	Extreme

ON THE WEATHER MAP

The weather map is not a trap—it's a guide to the atmosphere. So don't shy away from it. Ask the briefing officer to explain the details.

Just in case you ever have to interpret a map without expert help, there are a few general points to remember:

1. Check the time of the map, make sure it's the latest one available.

2. Always remember that "weather" moves. A map gives you a static picture of weather conditions over a large area at a specific time. Always use a map along with the latest reports and forecasts.

3. The curving lines on the map which form patterns like giant thumb-prints are called isobars. Joining points of equal sea level pressure, isobars outline the areas of High and Low pressure, marked H and L, respectively.

4. The winds at 2,000 feet above ground blow roughly parallel to the isobars—in a clockwise direction around Highs and counter-clockwise around Lows. Wind speeds vary with the distance between isobars. Where the lines are close together, you can expect moderate to strong winds; where they are far apart, expect light variable winds.

5. The red and blue lines are called Fronts. These lines indicate the zones of contact between large air masses with differing physical properties—cold vs. warm, dry vs. moist, etc. Blue lines are for cold fronts—cold air advancing. Red lines are for warm fronts—warm air advancing. Alternately red-and-blue lines are for quasistationary fronts—neither warm air nor cold air advancing. Hook marks in red-and-blue are for trowals—trough of warm air aloft. A purple line is called an occluded front—where a cold front has overtaken a warm front. Solid colored lines are fronts which produce air mass changes at the ground level as well as in the upper air. Dashed colored lines represent "upper air" fronts—they also are important.

6. When colours cannot be used to distinguish the various kinds of fronts, symbols are used. The monochromatic system for representing surface fronts is shown in the following table:

7. Along all active fronts you will usually encounter clouds and precipitation.

EPILOGUE

Unless you skimmed through this booklet or started in from the back cover, you should know a fair amount about weather services for the pilot. The services are there—for free. All you have to do is ask for them.

"Secure a Forecast to Secure Your Future"

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